

Remarks

Applicants respectfully traverse the Examiner's rejection of the claim. The sole claim was amended at the time of entering the U.S. national phase.

The Examiner raised a 35 U.S.C. § 103(a) rejection against the sole claim of the present application, over Silventoinen (GB 2309357), cited in the International Search Report, in view of Grube (USP 5239678) which is an equivalent of WO 93/10643 cited in the International Preliminary Examination Report.

According to the Examiner, Silventoinen discloses all the features of the sole claim of the present application, except that the base station transmits signaling information in at least one timeslot as long as at most N-1 of the timeslots of the frame on the beacon frequency are occupied by communications with mobile stations and stops transmitting the beacon signal when the N timeslots on the beacon frequency are occupied by communications with mobile stations.

Grube discloses a method carried out in a trunked radio communication system. This method is to temporarily use a current control channel (dedicated signaling : cf col. 1, lines 25-27) as a voice/data channel during periods of minimal traffic over the control channel (col. 3, lines 20-25). The same occurs when a voice channel is requested by a mobile station and when all the voice channels are busy (figure 2A and col. 3, lines 33-37).

The control channels of Grube are channels used for controlling the traffic under the responsibility of a central controller. Especially, these channels are used to control access to/from voice channels (col. 2, lines 63-64). They can also be used for the management of parameters relating to current communications, thereby checking that a mobile station is still active over its voice channel, which ensures a certain quality of service.

In any case, the control channels of Grube are dedicated channels, with a variable use rate. Such channels exist in the GSM system addressed by Silventoinen. They are called SDCCHs (Stand Alone Dedicated Control CHannels) or SACCHs (Slow Associated Control CHannels). For increasing capacity of the radio system to the detriment of the quality of service,

it seems natural and logical to sacrifice such control channels for allowing a new voice communication to be established when all the voice channels are busy.

However, the present invention comprises the suspension of the transmission of the beacon signal which is normally broadcast by a base station. This signal allows the mobile stations to detect the base station and to achieve space and time synchronization. It also permits the broadcast of some system information, such as the list of frequencies of the beacons of neighbor cells. In the GSM system, the beacon signal is carried by the logical channel called BCCH (Broadcast Control CHannel).

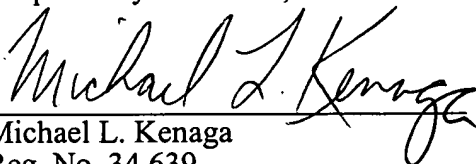
The beacon signal is designed to be permanently broadcast and listened to by the mobile stations. No such beacon signal is disclosed in the system of Grube.

The feature recited in the sole claim of the present application according to which one stops transmitting the beacon signal under certain circumstances is thus a break with the traditional operating of cellular networks. It could not have been suggested by Grube to one skilled in the art of developing microcell base stations of a multilayer radio communication cellular network.

Thus we believe the claimed subject matter is novel and non-obvious over Silventoinen in view of Grube.

In view of the foregoing comments, applicants respectfully request the Examiner's reconsideration and to find the claim allowed.

Respectfully submitted,


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